

WHAT IS CLAIMED IS:

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1. A disk device comprising:
 - a disk having predetermined information sectors recorded at a constant interval;
 - a head scanning said disk; and
 - a disturbance-compensation unit obtaining an amount of a disturbance based on a time-interval measurement in reading said predetermined information sectors so as to compensate a position of said head according to the amount of the disturbance.
2. The disk device as claimed in claim 1, wherein said disturbance-compensation unit compensates a tracking error signal according to the amount of the disturbance, the tracking error signal corresponding to a positional error of said head on said disk.
3. The disk device as claimed in claim 1, wherein said disturbance-compensation unit includes:
 - an angular-acceleration calculating unit calculating a rotational angular acceleration of a motor based on the time-interval measurement, the motor rotating said disk; and
 - a disturbance-compensation amount calculating unit calculating a disturbance-

compensation amount based on said rotational angular acceleration so as to compensate the position of said head according to said disturbance-compensation amount.

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4. The disk device as claimed in claim 3,
10 wherein said disturbance-compensation unit further includes a filter filtering a value of said rotational angular acceleration including a vibration of the disturbance so as to supply said value to said disturbance-compensation amount
15 calculating unit.

5. The disk device as claimed in claim 1,
20 wherein said disturbance-compensation unit includes:
an angular-velocity calculating unit
calculating a rotational angular velocity of a motor
based on the time-interval measurement, the motor
25 rotating said disk;
an angular-acceleration calculating unit
calculating a rotational angular acceleration of
said motor based on said rotational angular
velocity; and
30 a disturbance-compensation amount
calculating unit calculating a disturbance-
compensation amount based on said rotational angular
acceleration so as to compensate the position of
said head according to said disturbance-compensation
35 amount.

6. The disk device as claimed in claim 5,
wherein said disturbance-compensation unit further
includes a filter filtering a value of said
rotational angular velocity including a vibration of
the disturbance so as to supply said value to said
angular-acceleration calculating unit.

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7. The disk device as claimed in claim 5,
wherein said angular-acceleration calculating unit
is composed of a differential filter.

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8. The disk device as claimed in claim 1,
wherein said disturbance-compensation unit includes
a repeatable run-out amount obtaining unit obtaining
a repeatable run-out amount of said head in relation
to said disk so as to adjust the amount of the
disturbance by the repeatable run-out amount.

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9. The disk device as claimed in claim 8,
wherein said repeatable run-out amount obtaining
unit obtains said repeatable run-out amount by
preliminarily detecting a deviation amount of said
head affected by few disturbances, said head
deviating from a track of said disk by the deviation
amount.

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10. The disk device as claimed in claim 8,
wherein said repeatable run-out amount obtaining
unit calculates an average of repeatable run-out
amounts of said head measured at a plurality of
5 points on said disk so as to adjust the amount of
the disturbance by said average.

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11. The disk device as claimed in claim 8,
wherein said repeatable run-out amount obtaining
unit divides said disk into a plurality of zones so
as to obtain the repeatable run-out amount in each
15 of said zones.

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12. A disturbance compensation method for
a disk device including a disk having predetermined
information sectors recorded at a constant interval,
and a head scanning said disk, the method comprising
the steps of:

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obtaining an amount of a disturbance based
on a time-interval measurement in reading said
predetermined information sectors; and

compensating a position of said head
according to the amount of the disturbance.

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13. The disturbance compensation method
35 as claimed in claim 12, further comprising the step
of compensating a tracking error signal according to
the amount of the disturbance, the tracking error

signal corresponding to a positional error of said head on said disk.

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14. The disturbance compensation method as claimed in claim 12, further comprising the steps of:

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calculating a rotational angular acceleration of a motor based on the time-interval measurement, the motor rotating said disk; and

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calculating a disturbance-compensation amount based on said rotational angular acceleration so as to compensate the position of said head according to said disturbance-compensation amount.

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15. The disturbance compensation method as claimed in claim 12, further comprising the steps of:

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calculating a rotational angular velocity of a motor based on the time-interval measurement, the motor rotating said disk;

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calculating a rotational angular acceleration of said motor based on said rotational angular velocity; and
calculating a disturbance-compensation amount based on said rotational angular acceleration so as to compensate the position of said head according to said disturbance-compensation amount.

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16. The disturbance compensation method as claimed in claim 12, further comprising the steps of:

5 obtaining a repeatable run-out amount of said head in relation to said disk; and
adjusting the amount of the disturbance by the repeatable run-out amount.

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17. The disturbance compensation method as claimed in claim 16, further comprising the step of preliminarily detecting a deviation amount of
15 said head affected by few disturbances, said head deviating from a track of said disk by the deviation amount, so as to obtain said repeatable run-out amount.

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18. The disturbance compensation method as claimed in claim 16, further comprising the step
25 of calculating an average of repeatable run-out amounts of said head measured at a plurality of points on said disk so as to adjust the amount of the disturbance by said average.

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19. The disturbance compensation method as claimed in claim 16, further comprising the step
35 of dividing said disk into a plurality of zones so as to obtain the repeatable run-out amount in each of said zones.

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